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Back and neck pain. Factors of importance for the prognosis

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ABSTRACT

Back pain and neck pain are very common and among the most frequent causes of sick-leave and disability pension, thereby greatly affecting the individual and the community. This stresses the need for prognostic research regarding these conditions.

Aim: The main aim of the present work was to study prognostic factors, including manual therapy, for back and neck pain. The specific aims were, to investigate the influence of regular leisure physical activity and the body mass index (BMI) on the recovery from persistent low back pain (*Study I*), to study the influence of healthy lifestyle behaviour on the prognosis of occasional low back pain (*Study II*), to explore the long-term effects (up to one year) of naprapathic manual therapy for patients with non-specific back and/or neck pain (*Study III*), and to develop a prediction model for the recovery from whiplash-associated disorders (WAD) in patients who consulted physiotherapy (*Study IV*).

Methods: *Studies I* and *II* were based on the Stockholm Public Health Cohort, and comprised data from four questionnaire-based public-health surveys conducted between 2002 and 2010. *Study I* included 1836 individuals reporting persistent low back pain at baseline in 2002 and answering the follow-up in 2007, while *Study II* involved 8994 individuals with occasional low back pain at baseline in 2006 responding to the 2010 survey. Information on exposures and potential confounders was collected at baseline. The exposures were, regular leisure physical activity and BMI (*Study I*), and “healthy lifestyle behaviour”, a combination of four lifestyle factors (smoking habits, alcohol consumption, leisure physical activity and consumption of fruit and vegetables) (*Study II*). Both *Studies I* and *II* assessed men and women separately. *Study III* was based on a Swedish randomized controlled trial of 409 patients with non-specific back and/or neck pain. It compared naprapathic manual therapy with evidence based support on staying active and on pain coping strategies. Questionnaires at 26 and 52 weeks provided the follow-up data. *Study IV* included 680 patients with WAD consulting physiotherapy, using data retrieved from the Saskatchewan Government Insurance study, Canada (1997-1999). A prediction model for recovery from WAD was developed and internally validated by assessing twenty-five possible prognostic factors, using survival analyses.

Results and Conclusions: Regular leisure physical activity improved recovery from persistent low back pain among women. No such association was found among men, or between BMI and recovery regardless of sex (*Study I*). Healthy lifestyle behaviour decreased the risk of long duration troublesome low back pain among women with occasional low back pain. No clear association was found among men (*Study II*). Compared to evidence-based care, naprapathic manual therapy implied greater long-term improvement in pain and disability for patients with non-specific back and/or neck pain (*Study III*). The prediction model developed includes seven clinically important prognostic factors, and has acceptable predictive ability (*Study IV*). The conclusions in this thesis are, that lifestyle factors are of importance for the prognosis of low back pain among women, that combined manual therapy, such as naprapathy, has a long-term effect on non-specific back and/or neck pain, and that the present prediction model for recovery from WAD has acceptable predictive ability but has to be further validated to be used in clinical practice.